

Patent No. : 5,899,634  
Issued : May 4, 1999

A<sup>1</sup>  
substantially conforms to said flow surface, said sheet flow of water having a depth of at least about 1cm; and

said flow surface having a shape adapted to simulate a desired wave form wherein at least a portion of said flow of water assumes an airborne trajectory over said walkway to form a tunnel-like passageway.

14. (Amended) An apparatus for forming a water sculpture, comprising:

a flow surface with at least a portion thereof having a generally inclined slope;

a platform or walkway adjacent said flow surface;

A<sup>2</sup>  
at least one flow source for providing a sheet flow of water onto said flow surface such that said sheet flow of water flows upwardly onto said inclined slope and substantially conforms to the contours thereof and said flow of water on said flow surface has a relationship, characterized in terms of the Froude number, in a range of about 4 to 25; and

said flow surface further comprising an upwardly rising section sized and configured so as to induce separation of said sheet flow, whereby at least a portion of said sheet flow of water assumes an airborne trajectory over said platform or walkway producing visual, aural and/or aesthetic appeal.

Please add the following new claims:

42. A walk-through water sculpture comprising:

a reservoir of water;

a flow surface with at least a portion thereof having a generally upwardly inclined slope;

a platform or walkway adjacent said flow surface;

A<sup>3</sup>  
at least one water injector for providing a flow of water from said reservoir onto said flow surface along a flow path such that said flow of water flows upwardly onto said inclined slope and substantially conforms to said flow surface;

said flow surface having a shape adapted so that said flow of water curls over said platform or walkway and then splashes into said reservoir, simulating a desired wave form.

43. The water sculpture of Claim 42, wherein said water injector comprises a pump.

Patent No. : 5,899,634  
Issued : May 4, 1999

44. The water sculpture of Claim 43, wherein said pump communicates with said reservoir.

45. The water sculpture of Claim 44, wherein said flow path runs from said pump across said flow surface and to said reservoir.

46. The water sculpture of Claim 44, wherein said platform or walkway is positioned in or above said reservoir.

47. The water sculpture of Claim 42, wherein said flow path leads from said flow surface to said reservoir.

48. The water sculpture of Claim 42, wherein said flow surface has a generally tubular shape adapted to simulate a tunnel wave.

49. The water sculpture of Claim 48, wherein said flow surface comprises a substantially horizontal portion and a downwardly inclined portion, and said substantially horizontal portion is disposed above said walkway and said downwardly inclined portion is disposed adjacent said walkway on a side of said walkway opposite said upwardly inclined portion.

50. The water sculpture of Claim 49, wherein said flow surface is adapted so that said flow of water flows off of said flow surface after a single pass over said flow surface.

51. A water sculpture, comprising:  
a reservoir for retaining water;  
a flow surface with at least a portion thereof having a generally inclined slope;  
a platform or walkway adjacent said flow surface; and  
at least one pump for providing a flow of water from said reservoir onto said flow surface;

said pump and flow surface adapted so that said flow of water flows upwardly onto said inclined slope substantially conforming to said flow surface and flowing over said platform or walkway and then back into the reservoir;

said flow surface and said reservoir being configured so that substantially all of said flow of water is directed from said flow surface to said reservoir.

52. The water sculpture of Claim 51, wherein said platform or walkway is positioned directly above said reservoir.

Patent No. : 5,899,634  
Issued : May 4, 1999

53. The water sculpture of Claim 51, wherein said reservoir is adapted to retain water in a substantially static state relative to said flow of water.

54. The water sculpture of Claim 51, wherein said flow surface has a shape adapted to simulate a white water bore.

55. The water sculpture of Claim 51, wherein said flow surface has a shape adapted to simulate a spilling wave.

56. The water sculpture of Claim 51, wherein said flow surface has a shape adapted to simulate a tunnel wave.

57. The water sculpture of Claim 56, wherein said platform or walkway extends through said tunnel wave.

58. The water sculpture of Claim 56, wherein said tunnel wave forms an awning of a building.

59. The water sculpture of Claim 51, wherein said flow of water is supercritical over at least a portion of said flow surface.

60. The water sculpture of Claim 51, wherein said flow surface has at least a portion thereof having a generally downwardly inclined slope.

61. The water sculpture of Claim 60, wherein said downwardly inclined slope directs said sheet flow of water into said reservoir.

62. A method for creating a walk-through water sculpture, comprising the steps of:  
providing a flow surface having a substantially concave inclined portion;  
providing a walkway or platform adjacent the flow surface;  
providing a reservoir of water; and  
directing a flow of water from the reservoir onto the flow surface so that the flow of water substantially conforms to the flow surface and curls over the walkway or platform and into the reservoir.

63. The method of Claim 62, additionally comprising the step of forming the flow of water into a sheet flow.

64. The method of Claim 63, additionally comprising the step of imparting sufficient kinetic energy to the flow of water so that the flow of water is supercritical over at least a portion of the flow surface.

65. The method of Claim 62, wherein the flow surface is substantially tubular.

Patent No. : 5,899,634  
Issued : May 4, 1999

66. The method of Claim 62, additionally comprising the step of providing a pump communicating with the reservoir, said pump adapted to provide the flow of water.

67. The method of Claim 62, wherein the platform or walkway is disposed in or above the reservoir.

68. A tunnel wave water sculpture comprising:

a reservoir for retaining water;

a platform or walkway disposed above the reservoir;

a flow surface having a generally cylindrical portion extending generally around the platform or walkway, the flow surface not forming a complete cylinder; and

at least one water injector for directing a flow of water onto the flow surface at a location generally adjacent a first side of the walkway in a manner so that the water flows along the flow surface over the walkway and flows into the reservoir at a location generally adjacent a second side of the walkway.

69. The tunnel wave water sculpture of Claim 68, wherein the platform or walkway is supported by support members extending upwardly from the reservoir.

70. The tunnel wave water sculpture of Claim 68, wherein water from the water injector flows once across the flow surface before splashing into the reservoir.

71. The tunnel wave water sculpture of Claim 70, wherein water in the reservoir is directed into the water injector.

72. A tunnel wave water sculpture comprising:

a substantially arcuate flow surface having an entry portion and an exit portion;

a platform disposed beneath at least a portion of the arcuate flow surface so that the flow surface entry portion is disposed generally adjacent a first side of the platform and the flow surface exit portion is disposed generally adjacent a second side of the platform;

a water receiving basin generally below the platform;

at least one water injector for directing a flow of water onto the entry portion in a manner so that water flows along the flow surface over the platform to the exit portion, from which water exits the flow surface and flows into the water receiving basin.

Patent No. : 5,899,634  
Issued : May 4, 1999

73. The tunnel wave water sculpture of Claim 72, wherein water from the water receiving basin is directed back to the water injector so as to be again directed over the flow surface.

74. The tunnel wave water sculpture of Claim 72, wherein the platform is supported by support members disposed in the water receiving basin.

75. An apparatus for forming a tunnel wave through which people can pass, said apparatus comprising a flow surface, a platform or walkway and at least one nozzle for directing water onto the flow surface.

the flow surface having a concave curvature curling past the vertical back onto itself to form a partial cylinder having a longitudinal axis.

the platform or walkway extending through the partial cylinder and generally parallel to said axis.

76. An apparatus as claimed in claim 75, wherein the platform or walkway has opposing edges, each opposing edge spaced from the flow surface of said partial cylinder and wherein the partial cylinder provides a first opening adjacent the platform or walkway and serving as an inlet for water directed on said flow surface and a second opening adjacent the platform or walkway and serving as an outlet for water on said flow surface.

77. An apparatus as claimed in claim 75, wherein said partial cylinder comprises an opening disposed adjacent either side of the platform or walkway and wherein the walkway comprises supports extending through said opening.

78. An apparatus as claimed in claim 75, further comprising a water reservoir below the walkway, so that water can be drawn from the reservoir and directed through the nozzle(s) onto the flow surface to flow about the platform or walkway forming a water tunnel and then be deflected by said surface back to the reservoir.

79. A method of forming a water tunnel over a platform or walkway extending through the tunnel, said method comprising the steps of:

providing a concave flow surface over said platform or walkway which extends partially around a longitudinal axis of said platform or walkway;

directing water onto the flow surface with sufficient velocity to cause the water to conform to said flow surface and form a water tunnel about said platform or walkway by

Patent No. : 5,899,634  
Issued : May 4, 1999

traveling less than 360 degrees about said axis, before leaving the flow surface by means of an outlet therefrom.


80. A method as in Claim 79 additionally comprising providing a reservoir, drawing water from the reservoir, directing the drawn water onto the flow surface, and returning the water from the flow surface to the reservoir.

81. A method as in Claim 79 additionally comprising forming a sheet flow of water, and directing the sheet flow of water onto the flow surface.

Respectfully submitted,

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